Operation Manual

Public Address Amplifier

PA-935N

Welcome

A personal welcome to you from the management and employees of Inter-M

All of the co-workers here at Inter-M are dedicated to providing excellent products with inherently good value, and we are delighted you have purchased one of our products.

We sincerely trust this product will provide years of satisfactory service, but if anything is not to your complete satisfaction, we will endeavor to make things right.

Welcome to Inter-M, and thank you for becoming part of our worldwide extended family!

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK.
DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING

To prevent fire or shock hazard, do not expose the unit to rain or moisture.

This symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

This symbol is intended to alert the user to the presence of important operation and maintenance (servicing) instructions in the literature accompanying the appliance.

Caution: To prevent electric shock do not use this (polarized) plug with an extension cord, receptacle or other outlet unless the blades can be fully inserted to prevent blade exposure.

Attentions: Pour prévenir les chocs électriques ne pas utiliser cette fiche polarisée avec un prolongateur, une prise de courant on une autre sortie de courant, sauf si les lames peuvent étre insérées à fond sans en laisser aucune partie à découvert.

*Do not install this equipment in a confined space such as a book case or similar unit.
*The apparatus shall not be exposed to dripping or splashing and no objects filled with liquids, such vases, shall be placed on the apparatus.
*Worded: "WARNING FOR YOUR PROTECTION PLEASE READ THE FOLLOWING-WATER AND MOISTURE: Unit should not be used near water(e.g. near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, etc). Care should be taken so than objects do not fall and liquids are not spilled into the enclosure through openings."

Service Instructions

*Worded: "Caution: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so."
*Location: Instruction Manual.

NOTE : This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

*** It can be heated up if you use this product in closed box or ill-ventilated place.**

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Unpacking

Although your PA-935N is neither complicated nor difficult to operate, we recommend you to take a few minutes to read this brief manual and familiarize yourself with the important information regarding product features, setup and operation.

As with most electronic devices, we strongly recommend you retain the original packaging. In the unlikely event the product must be returned for servicing, the original packaging (or reasonable equivalent) is required.

Installation

Environment

Never place this product in an environment which could alter its performance or reduce its service life. Such environments usually include high levels of heat, dust, moisture, and vibration.

Important Safety Instructions

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.

Features

- HIGH POWER, LOW DISTORTION
35W of RMS power, with less than 3% THD.

- VERSATILE AND CONVENIENT
Three mixable inputs: MIC1, MIC2/AUX, MIC3/CD/SATELLITE and TELEPHONE.

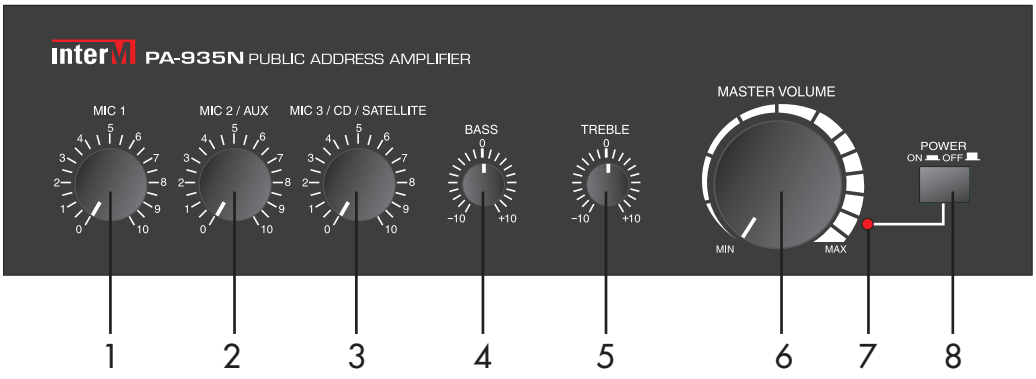
- CONFIGURABLE
Mic 2/Aux and Mic 3/CD/SATELLITE are individually selectable.

- TELEPHONE INPUT
Telephone input for connection with telephone system.

- PRIORITY DUCKING
MIC2/AUX and MIC3/CD/SATELLITE inputs duck when MIC1 in use.
Also, MIC1, MIC2/AUX and MIC3/CD/SATELLITE inputs duck when telephone in use.

- TONE CONTROL
Separate Bass and Treble controls to tailor your sound.

Front Panel



1. MIC VOLUME 1
This knob provides continuous control of the volume of Mic 1 signal.

2. MIC VOLUME 2/AUX
This knob provides continuous control of the volume of MIC2 or AUX signal.

3. MIC VOLUME 3/CD/SATELLITE
This knob provides continuous control of the volume of MIC3 or CD/SATELLITE signal.

4. BASS CONTROL
This knob provides continuous control of the low frequency response, by adding up to 10dB of cut (decrease) or boost (increase).

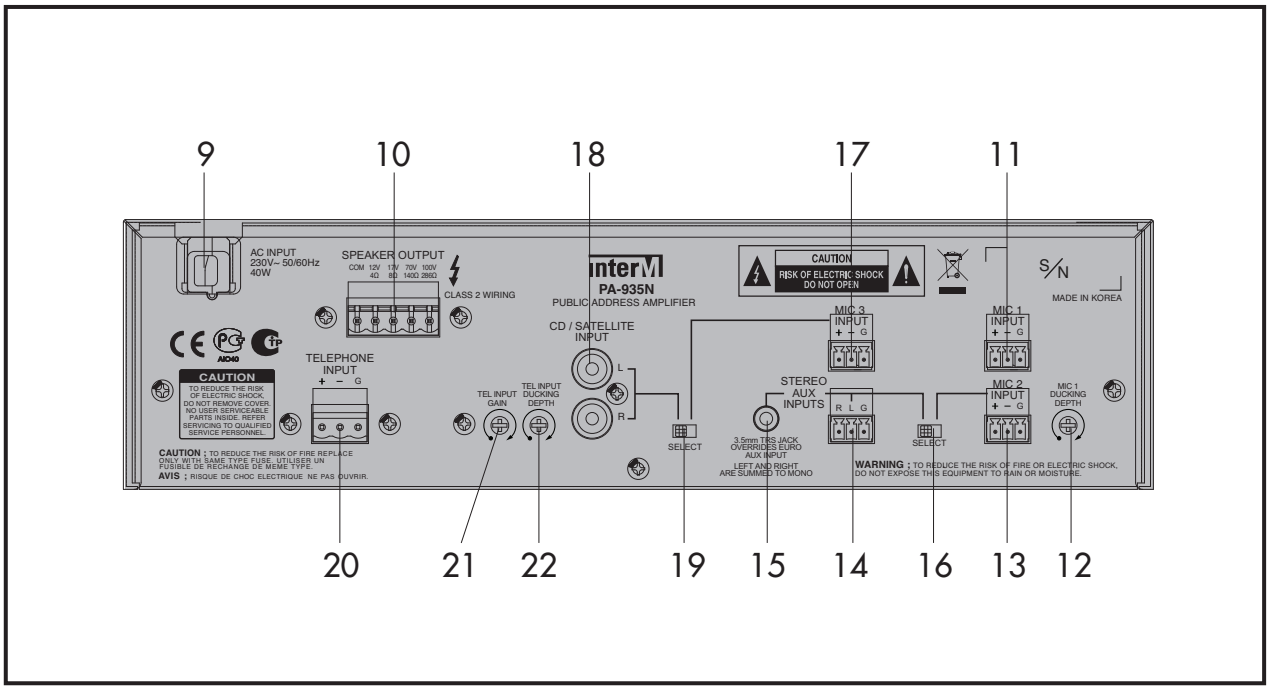
5. TREBLE CONTROL
This knob provides continuous control of the high frequency response, by adding up to 10dB of cut (decrease) or boost (increase).

6. MASTER VOLUME
This knob provides continuous control of the overall volume of output.

7. PILOT LAMP
This lamp turns on when the power switch turns on.

8. POWER SWITCH
Pressing this switch turns the unit on. Pressing it again turns the unit off.

Rear Panel



9. AC CORD
Connect this cable to your AC outlet.

10. SPEAKER OUTPUT TERMINAL
Connect the speaker of use according to following “Connecting Speakers” page.

11. MIC1 INPUT (Euro connector, -50dB, Balance)
Connect the microphone. Use the attached 3P MINI EURO plug according to indication.

12. MIC1 IN DUCKING DEPTH CONTROL
This VR provides continuous control of the ducking depth of MIC2/AUX and MIC3/CD/SATELITE when MIC1 signal input. Ducking effect will be acquired if it turns counterclockwise.

13. MIC2 INPUT (Euro connector, -50dB, Balance)
Connect the microphone. Use the attached 3P MINI EURO plug according to illustration.
This connector effect the 16 SELECT switch is set right side.

14. AUX INPUT (Euro connector, -15dB, Unbalance, Mixed L/R)

15. AUX INPUT (Mini-jack, -15dB, Unbalance, Mixed Land R)
Connect the computer or other line level apparatus. Use the attached 3P MINI EURO plug according to illustration. This connector effect the 16 SELECT switch is set left side.
14 and 15 connect in parallel inside.

16. MIC2 / AUX SELECTOR SWITCH

This switch is used to select between MIC2 and AUX. MIC2 input becomes effective on this switch being set right side,. The other hand, AUX input become effective on this switch being set left side.

17. MIC3 INPUT (EURO CONNECTOR, -50dB, BALANCE)

Connect the microphone.

18. CD / SATELLITE INPUT (RCA PIN JACK, -3dB, UNBALANCE, MIXED L/R)

Connect the line level apparatus. This connector effect the 16 SELECT switch is set left side.

19. MIC3 / CD / SATELLITE SELECTOR SWITCH

This switch is used to select between MIC3 and CD/SATELLITE. MIC3 input becomes effective on this switch being set right side,. The other hand, CD/SATELLITE input become effective on this switch being set left side.

20. TELEPHONE INPUT

This input is used to connect to a telephone exchange system for paging purposes.
NOTE : When signal is present on the Telephone Input terminal, all other input signals are ducked.

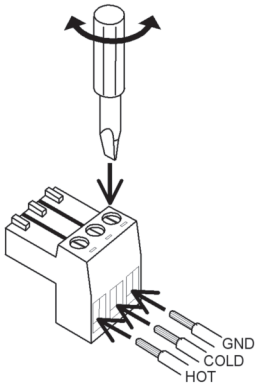
21. TELEPHONE INPUT LEVEL CONTORL

This VR provides continuous control of the volume of TELEPHONE signal.
Even if it turns to counterclockwise end, slight volume remains.

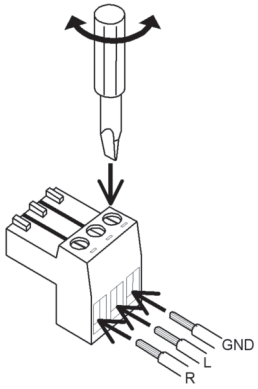
22. TLELPHONE IN DUCKING DEPTH CONTROL

This VR provides continuous control of the ducking depth of all signals.
Ducking effect will be acquired if it turns counterclockwise.

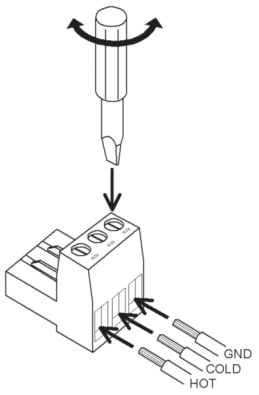
<HOW TO CONNECT>



MIC1,2,3 input



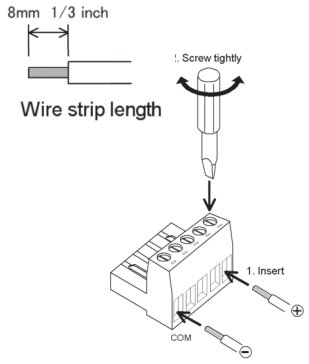
AUX input



TELEPHONE input

Connecting Speakers

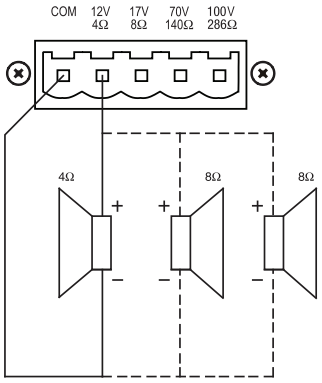
Before connecting speakers to your PA-935N unit, be sure to disconnect the AC power cable. Make certain that the total impedance should not be less than the rated impedance indicated.



For 4Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 4Ω terminal. See Figure 2-1 below.

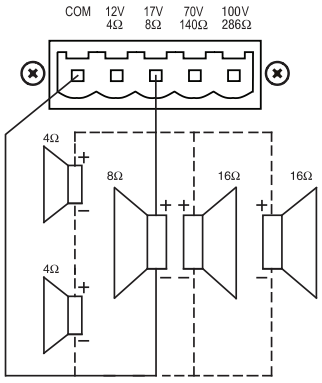
For 8Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 8Ω terminal. See Figure 2-2 below.

FOR 4Ω TERMINAL



(Figure 2-1)

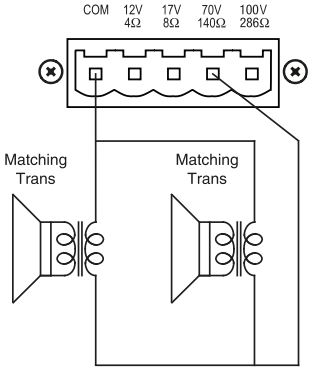
FOR 8Ω TERMINAL



(Figure 2-2)

For high-voltage distributed systems, connect with matching transformer as per Figures 2-3 and 2-4 below. Be certain that the total impedance does not equal less than the rated impedance.

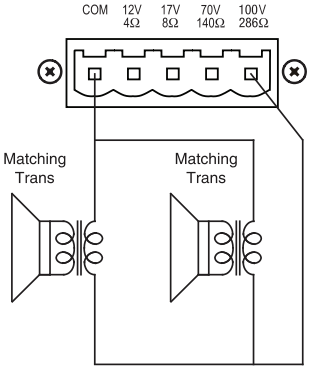
FOR 70V TERMINAL



Be sure that total impedance is not less than rated impedance.

(Figure 2-3)

FOR 100V TERMINAL

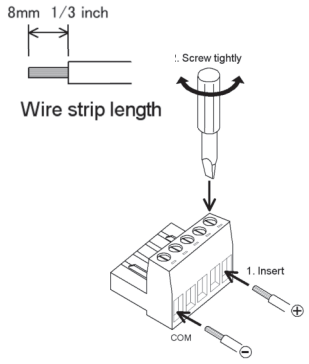


Be sure that total impedance is not less than rated impedance.

(Figure 2-4)

Connecting Speakers (USA/CANADA & Associated Version)

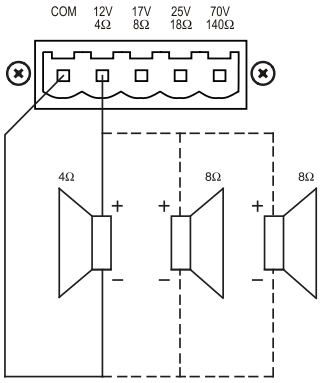
Before connecting speakers to your PA-935N unit, be sure to disconnect the AC power cable. Make certain that the total impedance should not be less than the rated impedance indicated.



For 4Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 4Ω terminal. See Figure 2-1 below.

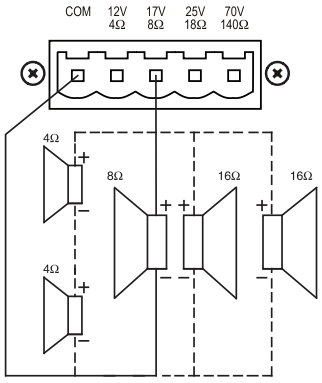
For 8Ω low-impedance speakers, connect in parallel, with the negative (-) connectors to the COM terminal and the positive (+) connectors to the 8Ω terminal. See Figure 2-2 below.

FOR 4Ω TERMINAL



(Figure 2-1)

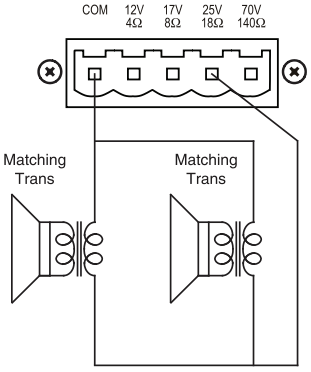
FOR 8Ω TERMINAL



(Figure 2-2)

For high-voltage distributed systems, connect with matching transformer as per Figures 2-3 and 2-4 below. Be certain that the total impedance does not equal less than the rated impedance.

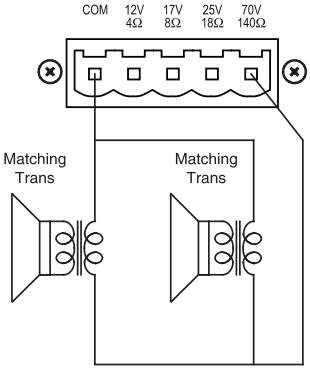
FOR 25V TERMINAL



Be sure that total impedance is not less than rated impedance.

(Figure 2-3)

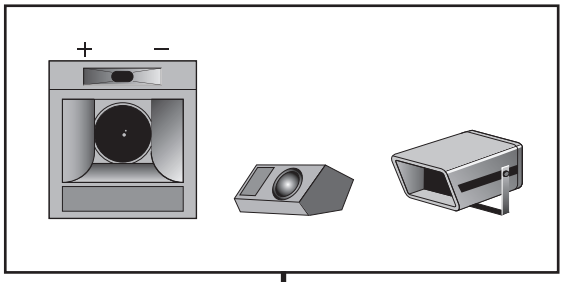
FOR 70V TERMINAL



Be sure that total impedance is not less than rated impedance.

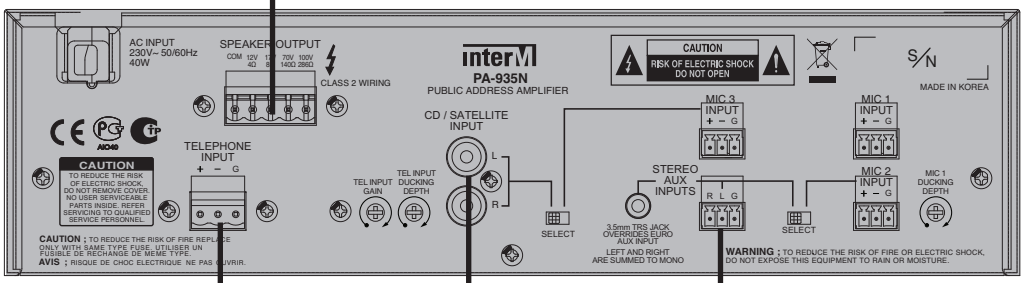
(Figure 2-4)

Applications



SPEAKERS

* This Picture is applied in case of EC and JAPAN Version.

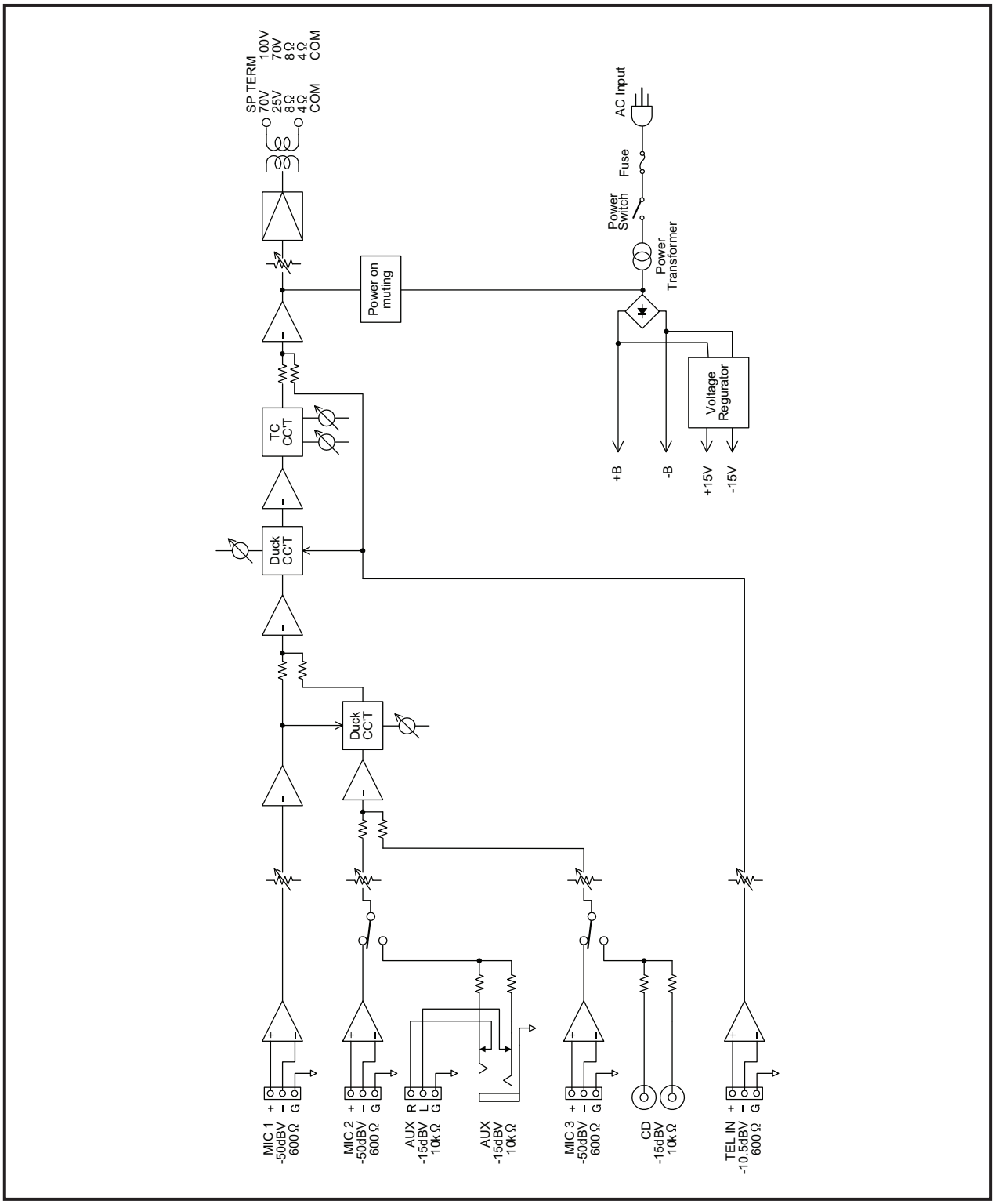


TELEPHONE
EXCHANGE SYSTEM

TUNER

CD PLAYER

Block Diagram

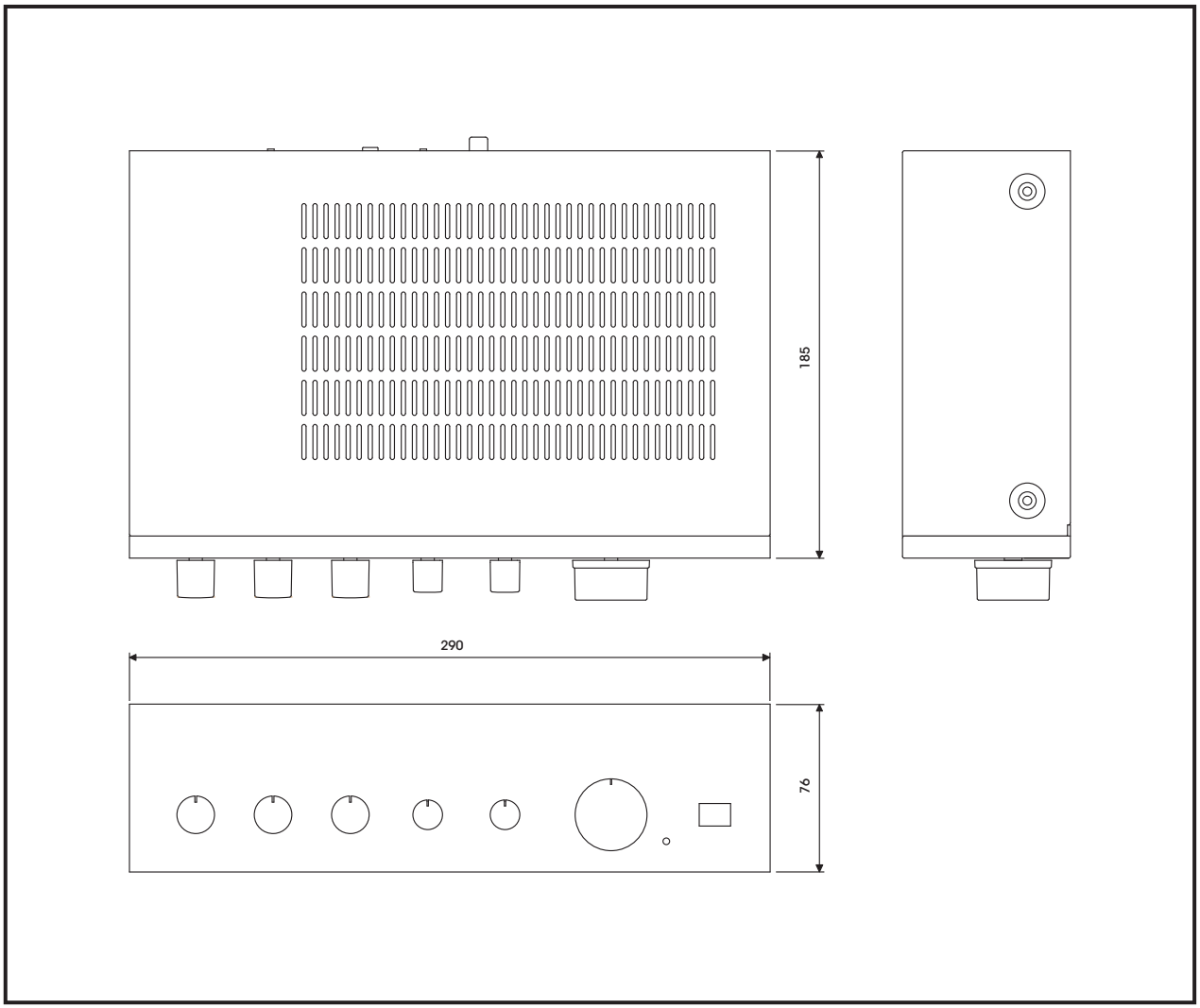


Specifications

		PA-935N			
Rated Output Power (at 1kHz, T.H.D : 3%)		35W (RMS)			
Frequency Response (+1,-3dB)	Mic 1, 2, 3	150Hz-12kHz			
	Aux	80Hz-15kHz			
	CD/Satellite	80Hz-15kHz			
	Telephone	330Hz-3kHz			
T.H.D (at Rated Output -5dB, 1kHz)		Less Than 1%			
S/N	Mic 1, 2, 3	Better than 60dB			
	Aux, CD/Satellite, Telephone	Better than 75dB			
Input Sensitivity /Impedance	Mic 1, 2, 3	-50dB/600Ω			
	Aux	-15dB/10kΩ			
	CD/Satellite	-15dB/10kΩ			
	Telephone	EC & Associated, JAPAN : 0.775V/600Ω, USA / CANADA & Associated : 0.3V/600Ω			
Tone Control	High	±10dB at 10kHz / Shelving			
	Low	±10dB at 100Hz / Shelving			
Output Voltage /Impedance	EC & Associated, JAPAN	4Ω / 11.8V	8Ω / 16.7V	140Ω / 70V	286Ω / 100V
	USA/CANADA & Associated	4Ω / 11.8V	8Ω / 16.7V	18Ω / 25V	140Ω / 70V
Operating Temperature		-10˚C ~ +40˚C			
Power Source		100–120VAC or 220–240VAC; 50/60Hz (Supplied AC mains transformer depends on country requirements)			
Power Consumption		40W			
Weight		4.4kg / 9.7lb			
Dimensions		290(W) X 76(H) X 185(D)mm / 11.4(W) X 3(H) X 7.3(D)in			

* Specifications and design subject to change without notice.

※ **DIMENSIONS**



Service

Procedures
Ensure the problem is not related to operator error, or system devices that are external to this unit. Information provided in the troubleshooting portion of this manual may help with this process. Once it is certain that the problem is related to the product contact your warranty provider as described in the warranty section of this manual.

Schematic
A Schematic is available by contacting your warranty provider.

Parts List
A Parts List is available by contacting your warranty provider.

Variations and Options

Variations
Products supplied through legitimate sources are compatible with local AC power requirements.

Options
No optional items are available for this product.

Warranty

Warranty terms and conditions vary by country and may not be the same for all products. Terms and conditions of warranty for a given product may be determined first by locating the appropriate country which the product was purchased in, then by locating the product type.

To obtain specific warranty information and available service locations contact Inter-M directly(in Korea or the USA) or the authorized Inter-M Distributor for your specific country or region.

AIO40

Inter-M, Ltd. (Korea) began operations in 1983.

Since then, Inter-M has grown to become one of the largest manufacturers
of professional audio and commercial sound electronics equipment in the world.

Inter-M has gained worldwide recognition for its own branded products,
as well as private label manufacturing of electronics sold under other names (OEM).

The company is no longer just a Korean company, but rather a global company
that is truly international in scope, with factories and offices in Korea and China,
and sales and marketing operations located in Japan, Europe, and the U.S.A.

With more than 850 employees around the globe,
Inter-M is well-poised for further growth and expansion.

Inter-M Americas, INC.
13875 ARTESIA BLVD. CERRITOS, CA 90703 USA
TEL : +1-562-921-0313, FAX : +1-562-921-0370
Home Page : http://www.inter-m.net, E-mail : info@inter-m.net

Inter-M Corporation
SEOUL OFFICE:653-5 BANGHAK-DONG, DOBONG-KU, SEOUL, KOREA
TEL : +82-2-2289-8140~8, FAX : +82-2-2289-8149
Home Page : http://www.inter-m.com, E-mail : overseas@inter-m.com

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